(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 4 098 134 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
07.12.2022 Bulletin 2022/49

(21) Application number: **21176913.8**

(22) Date of filing: **31.05.2021**

(51) International Patent Classification (IPC):
A24F 40/30 *(2020.01)* ***A24F 40/46*** *(2020.01)*

(52) Cooperative Patent Classification (CPC):
A24F 40/30; A24F 40/46

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(71) Applicant: **JT International S.A.**
1202 Geneva (CH)

(72) Inventors:
- **ROGAN, Andrew Robert John**
  Forres, Moray IV36 2ZH (GB)
- **WRIGHT, Alec**
  Guildford, Surrey GU2 7SU (GB)

(74) Representative: **Lavoix**
2, place d'Estienne d'Orves
75441 Paris Cedex 09 (FR)

(54) AEROSOL GENERATING CONSUMABLE COMPRISING A FLAVOURING PORTION AND ASSOCIATED AEROSOL GENERATING SET

(57) The invention concerns an aerosol generating consumable (14) comprising:
- a flavouring portion (24) configured to generate a flavoured aerosol;
- a cartomizer portion (26) configured to generate an aerosol vapour;
- an airflow path (28) comprising an upstream part extending through the cartomizer portion (26) and a downstream part extending through the flavouring portion (24).

The cartomizer portion (26) comprises a reservoir (54) storing an aerosol vapour precursor and a cartomizer heater (56) configured to heat the aerosol vapour precursor to form the aerosol vapour and release it into the upstream part of the airflow path (28).

The flavouring portion (24) comprises a storage portion (36) storing a flavoured aerosol precursor under pressure, and a releasing mechanism (38) configured to release the flavoured aerosol precursor from the storage portion (36) to form the flavoured aerosol in a mouthpiece section (34).

The flavouring portion (24) further comprises a flavouring heater (40) arranged in the mouthpiece section (24) and configured to heat the flavoured aerosol.

EP 4 098 134 A1

Description

FIELD OF THE INVENTION

[0001] The present invention concerns an aerosol generating consumable comprising a cartomizer portion and a flavouring portion.

[0002] The present invention also concerns an aerosol generating set comprising such an aerosol generating consumable and an aerosol generating device configured to operate with said aerosol generating consumable.

BACKGROUND OF THE INVENTION

[0003] Different types of aerosol generating sets are already known in the art. Generally, such sets comprise a storage portion for storing an aerosol forming precursor. A heating system is formed of one or more electrically activated resistive heating elements arranged to heat said precursor to generate the aerosol. The aerosol is released into a flow path extending between an inlet and outlet of the device. The outlet may be arranged as a mouthpiece, through which a user inhales for delivery of the aerosol.

[0004] In some aerosol generating sets, the precursor is stored in a removable cartridge. The aerosol generating set comprises then an aerosol generating device which defines a cavity in which the cartridge may be inserted. In order to attach the removable cartridge to the device body, a screw-threaded connection can for example be used. When the cartridge is assembled to the aerosol generating device, the device is able to generate the aerosol. When the precursor is consumed, the cartridge can be easily removed and replaced.

[0005] It is also known to add some flavouring substance into the storing portion in order to give to the generated aerosol a pleasant flavor for the user. The flavoring substance may for example be Ethylvanillin (vanilla), menthol, Isoamyl acetate (banana oil) or similar. However, if the user wants to change the flavour or vape an aerosol without flavour, the whole cartridge has to be changed which can be tedious for the user and requires the user to have multiple cartridges in his/her possession.

[0006] To solve this problem, other known sets comprise a flavour portion in the cartridge, separated from the storage portion and comprising a flavouring substance. When activated by the user, for example with a button arranged on the outside of the cartridge, the flavouring substance is guided to the mouthpiece and delivered to the user together with the vaped aerosol. Thus, a flavoured taste is provided to the user when desired. However, this solution presents several issues. Particularly, a part of the generated aerosol can condense in the mouthpiece while mixing with the flavouring substance. In addition, the perceived sensation of the vaped aerosol for the user is less pleasant than with a conventional aerosol generator.

SUMMARY OF THE INVENTION

[0007] One of the aims of the present invention is therefore to provide an aerosol generating consumable enabling an easy and convenient flavour change while providing an improved perceived sensation of the vaped aerosol for the user.

[0008] For this purpose, the invention relates to an aerosol generating consumable comprising: a flavouring portion configured to generate a flavoured aerosol; a cartomizer portion configured to generate an aerosol vapour and an airflow path comprising an upstream part extending through the cartomizer portion and a downstream part extending through the flavouring portion; the cartomizer portion comprising a reservoir storing an aerosol vapour precursor and a cartomizer heater configured to heat the aerosol vapour precursor to form the aerosol vapour and release it into the upstream part of the airflow path; the flavouring portion comprising a storage portion storing a flavoured aerosol precursor under pressure, and a releasing mechanism configured to release the flavoured aerosol precursor from the storage portion to form the flavoured aerosol in a mouthpiece section; the flavouring portion further comprising a flavouring heater arranged in the mouthpiece section and configured to heat the flavoured aerosol.

[0009] Indeed, using these features, the flavouring portion may be refueled or replaced easily without having to replace the cartomizer portion. Therefore, the user may easily change the flavour of the vaped aerosol when desired.

[0010] Moreover, the heater arranged into the mouthpiece section and heating the flavoured aerosol enables to reduce the chance of the aerosol vapour condensing in the mouthpiece when mixing with cold flavour substance. The aerosol generating consumable according to the invention enables to produce aerosol vapour and flavoured aerosol with limited temperature difference. Moreover, the aerosol reaching the user presents a more pleasant sensation as the aerosol generating consumable prevents unpleasant cold flavouring substance from reaching the consumer.

[0011] Preferably, the flavoured aerosol precursor is in liquid phase and the storage portion contains a propellant gas.

[0012] According to some embodiments, the mouthpiece section is in fluid communication with the downstream part of the airflow path.

[0013] According to some embodiments, the mouthpiece section is integrated into the downstream part of the airflow path.

[0014] By implementing these features, the aerosol vapour and the flavoured aerosol are mixed together before reaching the user and therefore improve the perceived sensation of the vaped aerosol for the user.

[0015] According to some embodiments, the releasing mechanism comprises a metering valve opening and closing the storage portion, and an expansion chamber

arranged between the metering valve and the mouthpiece section.

[0016] By implementing this feature, it is possible to dispense a predetermined quantity of flavoured aerosol precursor to the expansion chamber in which the flavoured aerosol is formed and sent to the mouthpiece. It is therefore possible to control the amount of flavour delivered to the user.

[0017] According to some embodiments, the releasing mechanism further comprises an actuator configured to cause opening of the metering valve.

[0018] By implementing this feature, the user may control the providing of the flavoured aerosol to the mouthpiece and enables to adjust the amount of desired flavour in the vaped aerosol and even to choose to vape a non-flavoured aerosol if desired.

[0019] According to some embodiments, the flavouring portion is mounted on the cartomizer portion; the cartomizer portion is configured to be mounted on an aerosol generating device.

[0020] By implementing this feature, the flavouring portion may be refueled or replaced more easily.

[0021] According to some embodiments, the cartomizer portion comprises a pair of contacts designed to connect the cartomizer heater to an external electric circuitry.

[0022] According to some embodiments, the flavouring portion comprises a pair of contacts designed to connect the flavouring heater to an external electric circuitry.

[0023] According to some embodiments, the cartomizer portion further comprises an internal circuit designed to connect said pair of contacts of the flavouring portion to the external electric circuitry.

[0024] According to some embodiments, the cartomizer portion further comprises another pair of contacts different from said pair of contacts and designed to connect the internal circuit to the external circuitry.

[0025] By implementing these features, the cartomizer heater and/or the flavouring heater are able to be electrically powered to heat the aerosol vapour precursor and/or the flavour aerosol precursor.

[0026] According to some embodiments, the cartomizer heater comprises a wick in fluid communication with the reservoir and a heating element wound around the wick.

[0027] By implementing this feature, the wick enables to convey the aerosol vapour precursor from the reservoir to the heating element in order to generate the vapor aerosol.

[0028] The invention also relates to an aerosol generating set, comprising an aerosol generating consumable according to any one of the preceding claims and an aerosol generating device configured to operate with the aerosol generating consumable and comprising a control module configured to control powering of the cartomizer heater and the flavouring heater.

BRIEF DESCRIPTION OF THE DRAWINGS

[0029] The invention and its advantages will be better understood upon reading the following description, which is given solely by way of non-limiting example and which is made with reference to the appended drawings, in which:

- Figure 1 is a cross-sectional view of an aerosol generating set, in operation position, according to the invention, the aerosol generating set comprising an aerosol generating consumable and an aerosol generating device;
- Figure 2 is a cross-sectional view of a part of the aerosol generating consumable according to an example different from the example of Figure 1; and
- Figure 3 is a schematic perspective view of the aerosol generating set of Figure 1, the aerosol generating consumable and the aerosol generating device being separated.

DETAILED DESCRIPTION OF THE INVENTION

[0030] Before describing the invention, it is to be understood that it is not limited to the details of construction set forth in the following description. It will be apparent to those skilled in the art having the benefit of the present disclosure that the invention is capable of other embodiments and of being practiced or being carried out in various ways.

[0031] As used herein, the term "aerosol generating device" or "device" may include a vaping device to deliver an aerosol to a user, including an aerosol for vaping, by means of aerosol generating unit (e.g. an aerosol generating element which generates vapor which condenses into an aerosol before delivery to an outlet of the device at, for example, a mouthpiece, for inhalation by a user). The device may be portable. "Portable" may refer to the device being for use when held by a user. The device may be adapted to generate a variable amount of aerosol, e.g. by activating a heater system for a variable amount of time (as opposed to a metered dose of aerosol), which can be controlled by a trigger. The trigger may be user activated, such as a vaping button and/or inhalation sensor. The inhalation sensor may be sensitive to the strength of inhalation as well as the duration of inhalation to enable a variable amount of vapor to be provided (so as to mimic the effect of smoking a conventional combustible smoking article such as a cigarette, cigar or pipe, etc.). The device may include a temperature regulation control to drive the temperature of the heater and/or the heated aerosol generating substance (aerosol pre-cursor) to a specified target temperature and thereafter to maintain the temperature at the target temperature that enables efficient generation of aerosol.

[0032] As used herein, the term "aerosol" may include

a suspension of precursor as one or more of: solid particles; liquid droplets; gas. Said suspension may be in a gas including air. Aerosol herein may generally refer to/include a vapor. Aerosol may include one or more components of the precursor.

[0033] As used herein, the term "aerosol-forming precursor" or "precursor" or "aerosol-forming substance" or "substance" or "vaporizable material" is used to designate any material that is vaporizable in air to form aerosol. Vaporisation is generally obtained by a temperature increase up to the boiling point of the vaporization material, such as at a temperature up to 400°C, preferably up to 350°C. The vaporizable material may, for example, comprise or consist of an aerosol-generating liquid, gel, or wax or the like or an aerosol -generating solid that may be in the form of a rod, which contains processed tobacco material, a crimped sheet or oriented strips of reconstituted tobacco (RTB), or any combination of these. The vaporizable material may comprise one or more of: nicotine; caffeine or other active components. The active component may be carried with a carrier, which may be a liquid. The carrier may include propylene glycol or glycerin.

DETAILED DESCRIPTION OF AN EMBODIMENT OF THE INVENTION

[0034] An aerosol generating set 10 according to the invention is shown on Figure 1. This aerosol generating set 10 comprises an aerosol generating device 12 and aerosol generating consumable 14.

[0035] The aerosol generating device 12 comprises a device body extending along a device axis X-X'. The device body is designed to cooperate with the aerosol generating consumable 14 and defines an operation position of the aerosol generating set 10 wherein the aerosol generating consumable 14 is able to operate with the aerosol generating device 12 to generate aerosol.

[0036] Referring to Figure 1, the device body further delimits an inside part of the device 12 able to receive internal components, notably a power supply device 20 and a control module 22 integrated for example in a printed circuit board. The power supply device 20 comprises a battery, for example a rechargeable lithium-ion battery known in the art. The power supply device 20 may be electrically recharged via an electrical plug 23. The control module 22 is configured to control the operation of the aerosol generating device 12. Particularly, the control module 22 is configured to control for example a voltage provided by the battery to the aerosol generating consumable 14, and notably to the heaters arranged in the aerosol generating consumable 14, as it will be explained below in further detail.

[0037] The aerosol generating consumable 14 comprises a flavouring portion 24, a cartomizer portion 26 and an airflow path 28. The aerosol generating consumable 14 further comprises a mouthpiece 30.

[0038] As shown on Figure 1, the cartomizer portion 26 extends along a longitudinal axis A-A', coinciding with the device axis X-X' in the operation position of the aerosol generating set 10. The cartomizer portion 26 presents two ends along the longitudinal axis A-A'. The flavouring portion 24 is mounted on the cartomizer portion 26, in particular on a first end of the cartomizer portion 26.

[0039] In the example of Figure 1, the flavouring portion 24 and the cartomizer portion 26 are distinct elements. The flavouring portion 24 and the cartomizer portion 26 may be engaged via a push-fit engagement, a screw-thread engagement, or a bayonet fit, for example. The flavouring portion 24 may be easily replaced when the flavouring portion 24 is empty of flavoured aerosol precursor or when the user wants to change the flavour of the vaped aerosol.

[0040] As a variant, not shown, the flavouring portion 24 and the cartomizer portion 26 are permanently fixed together to form a single component. The flavouring portion 24 may for example be refueled through an opening when it is empty of flavoured aerosol precursor independently of the cartomizer portion 26.

[0041] In the example of Figure 1, the mouthpiece 30 is mounted on the flavouring portion 24, at the opposite of the cartomizer portion 26 along the longitudinal axis A-A'. The mouthpiece 30 defines an outlet 32 configured to provide the generated aerosol to the user. The mouthpiece 30 further defines a mouthpiece section 34 leading to the outlet 32.

[0042] In the operation position of the aerosol generating set 10, the cartomizer portion 26 is mounted on the aerosol generating device 12, in particular the second end of the cartomizer portion 26 is mounted on the aerosol generating device 12.

[0043] The flavouring portion 24 is configured to generate a flavoured aerosol. In particular, the flavouring portion 24 comprises a storage portion 36, a releasing mechanism 38 and a flavouring heater 40.

[0044] The storage portion 36 is able to store a flavoured aerosol precursor under pressure. In particular, the storage portion 36 is able to store the flavoured aerosol in liquid phase and a propellant gas in gas phase. The flavoured aerosol precursor is advantageously nicotine free. The propellant gas is for example nitrous oxide or carbon dioxide. Advantageously, the flavoured aerosol precursor is stored separately from the propellant gas for example in a flexible container or bag. In this case, the propellant gas may be pressurized and stored in contact with an external surface of such a flexible container/bag to propel the flavoured aerosol precursor outside of the storage portion 36 when the releasing mechanism 38 is actuated.

[0045] The releasing mechanism 38 is configured to release the flavoured aerosol precursor from the storage portion 36 to form the flavoured aerosol in the mouthpiece section 34. In particular, the releasing mechanism 38 comprises a metering valve 41 opening and closing the storage portion 36, and an expansion chamber 42 ar-

ranged between the metering valve 41 and the mouthpiece section 34. The metering valve 41 is configured to dispense a predetermined quantity of flavoured aerosol precursor to the expansion chamber 42 in which the flavoured aerosol is formed and sent to the mouthpiece section 34. The expansion chamber 42 acts as an aerosol generator without using heat to form the aerosol. The aerosol generated by the expansion chamber 42 is therefore at ambient temperature.

[0046] As shown on Figure 2, the releasing mechanism 38 further comprises an actuator 44 configured to cause opening of the metering valve 41. In the example shown on this Figure 2, the actuator 44 is a button arranged on the outside of the housing of the flavouring portion 24. By pressing this button, the user may open the metering valve 41 and enables the release of flavoured aerosol precursor to the expansion chamber 42 and the flow of flavoured aerosol to the mouthpiece section 34. As a variant, the actuator 44 is a portion of the housing of the flavouring portion 24. The actuator 44 is actuated by moving the portion of the housing between two positions to open or not the metering valve 41. In another variant, the actuator 44 is arranged in the mouthpiece 30. By moving the mouthpiece towards the flavouring portion 24, the metering valve 41 is activated.

[0047] In another embodiment, the releasing mechanism 38 comprises a puff sensor configured to detect when the user is inhaling. When detecting a puff in the mouthpiece 30, the puff sensor activates the metering valve 41.

[0048] As shown on Figures 1 and 2, the flavouring heater 40 is arranged in the mouthpiece section 34. The flavouring heater 40 is arranged downstream, with respect to the flow of aerosol when the user is vaping, of the expansion chamber 42 and upstream of the mouthpiece outlet 32. The flavouring heater 40 is configured to heat the flavoured aerosol. For this purpose, the flavouring heater 40 comprises for example a resistive heating filament in contact with the flowing aerosol coming from the expansion chamber 42. Therefore, the aerosol heats from an ambient temperature when flowing from the expansion chamber 42 to a temperature comprised between 70 °C and 150 °C, preferably 100 °C.

[0049] As shown on Figure 3, the flavouring portion 24 further comprises a first pair of contacts 50 designed to connect the flavouring heater 40 to an external electric circuitry, in particular to the power supply device 20 of the aerosol generating device 12. The first pair of contacts 50 is arranged on the end of flavouring heater 40 designed to cooperate with the cartomizer portion 26. In operation position, the power supply device 20 is able to power, via the cartomizer portion 26 the flavouring heater 40, as it will be explained below. In particular, the cartomizer portion 26 comprises an internal circuit 52 and a second pair of contacts 53. The first pair of contacts 50 are designed to face the second pair of contacts 53 when the flavouring portion 24 cooperates with the cartomizer portion 26. The internal circuit 52 is designed to connect the first pair of contacts 50 of the flavouring portion 24 to the external electric circuitry, notably to the power supply device 20. Electrical connections, for example electrical wires are arranged in the flavouring portion 24 and the cartomizer portion 26 between the flavouring heater 40 and the first pair of contacts 50.

[0050] The cartomizer portion 26 is configured to generate an aerosol vapour. In particular, the cartomizer portion 26 comprises a reservoir 54 storing an aerosol vapour precursor and a cartomizer heater 56 configured to heat the aerosol vapour precursor to form the aerosol vapour and release it into the airflow path 28. The vapour precursor may not contain any flavouring substance, and may consist essentially of nicotine together with a carrier such as propylene glycol and/or glycerin. In the example of Figure 1, the cartomizer heater 56 comprises a wick 58 in fluid communication with the reservoir 54 and a heating element wound around the wick 58.

[0051] As shown on Figure 3, the cartomizer portion 26 further comprises a third pair of contacts 60 designed to connect the cartomizer heater 56 to an external electric circuitry, in particular to the power supply device 20. In the embodiment shown in Figure 3, the cartomizer portion 26 further comprises a fourth pair of contacts 62 different from the third pair of contacts 60 and designed to connect the internal circuit 53 to the power supply device 20. In this case, the aerosol generating device 12 comprise two pairs of contacts 64 connected to the power supply device 20 and configured to face the third pair of contacts 60 and the fourth pair of contacts 62 when the aerosol generating set 10 is in operation position. The control module 22 is here able to control the two heaters 40, 56 independently, meaning that the control module 22 may control the activation of one of the heater while the other one being not activated. Electrical connections, for example electrical wires are arranged in the cartomizer portion 26 between the cartomizer heater 56 and the third pair of contacts 60.

[0052] In another embodiment, not shown, the third pair of contacts 60 of the cartomizer portion 26 is further designed to connect the internal circuit 52 to the power supply device 20. In this case, a single pair of contacts 60 connects electrically the aerosol generating device 12 and the cartomizer portion 26. In this case, the aerosol generating device 12 comprises a single pair of contacts 64 connected to the power supply device 20 and configured to face the single pair of contacts 60 when the aerosol generating set 10 is in operation position. The control module 22 is here controlling the two heaters 40, 56 jointly, meaning that both heaters 40, 56 are activated or deactivated at the same moments.

[0053] As visible in Figure 2, the airflow path 28 comprises an upstream part extending through the cartomizer portion 26 and a downstream part extending through the flavouring portion 24. The upstream part is extending along the longitudinal axis A-A', in the center of the cartomizer portion 26 and is surrounded by the reservoir 54. As visible in Figure 2, the downstream part is arranged

around or at the periphery of the storage portion 36. As represented by the arrow in Figure 1, the aerosol vapour released by the cartomizer heater 56 flows in the upstream part of the airflow path 28 and then flows through the downstream part until the outlet 32.

[0054] As visible in Figure 1, the mouthpiece section 34 is integrated into the downstream part of the airflow path 28. Therefore, the flow of flavoured aerosol is mixed with the aerosol vapour in the downstream part of the airflow path 28 before reaching the outlet 32 of the mouthpiece 30. In a variant shown in Figure 2, the mouthpiece section 34 is in fluid communication with the downstream part of the airflow path 28, in particular at the level of the outlet 32. In this case, the flow of flavoured aerosol is mixing with the aerosol vapour at the outlet 32 of the mouthpiece 30, just before reaching the user's mouth.

[0055] It appears clear that the invention has a number of advantages. The invention enables an easy refueling or replacement of the flavour when the user desired it, without having to change the whole cartridge. In addition, the invention enables to heat the flavoured aerosol and therefore to reduce the chance of the aerosol vapour to condense in the mouthpiece section 34 when mixing with cold flavour substance. Moreover, the aerosol reaching the user presents a more pleasant sensation as the aerosol generating consumable prevents unpleasant cold flavouring substance from reaching the user.

Claims

1. An aerosol generating consumable (14) comprising:

- a flavouring portion (24) configured to generate a flavoured aerosol;
- a cartomizer portion (26) configured to generate an aerosol vapour;
- an airflow path (28) comprising an upstream part extending through the cartomizer portion (26) and a downstream part extending through the flavouring portion (24);

the cartomizer portion (26) comprising a reservoir (54) storing an aerosol vapour precursor and a cartomizer heater (56) configured to heat the aerosol vapour precursor to form the aerosol vapour and release it into the upstream part of the airflow path (28);
the flavouring portion (24) comprising a storage portion (36) storing a flavoured aerosol precursor under pressure, and a releasing mechanism (38) configured to release the flavoured aerosol precursor from the storage portion (36) to form the flavoured aerosol in a mouthpiece section (34);
the flavouring portion (24) further comprising a flavouring heater (40) arranged in the mouthpiece section (24) and configured to heat the flavoured aerosol.

2. The aerosol generating consumable (14) according to claim 1, wherein the mouthpiece section (34) is in fluid communication with the downstream part of the airflow path (26).

3. The aerosol generating consumable (14) according to claim 1, wherein the mouthpiece section (34) is integrated into the downstream part of the airflow path (26).

4. The aerosol generating consumable (14) according to any one of claims 1 to 3, wherein the releasing mechanism (38) comprises a metering valve (41) opening and closing the storage portion (36), and an expansion chamber (42) arranged between the metering valve (41) and the mouthpiece section (34).

5. The aerosol generating consumable (14) according to claim 4, wherein the releasing mechanism (38) further comprises an actuator (44) configured to cause opening of the metering valve (41).

6. The aerosol generating consumable (14) according to any one of the preceding claims, wherein the flavouring portion (24) is mounted on the cartomizer portion (26), the cartomizer portion (26) is configured to be mounted on an aerosol generating device (12).

7. The aerosol generating consumable (14) according to any one of the preceding claims, wherein the cartomizer portion (26) comprises a pair of contacts (60) designed to connect the cartomizer heater (56) to an external electric circuitry (20).

8. The aerosol generating consumable (14) according to any one of the preceding claims, wherein the flavouring portion (24) comprises a pair of contacts (50) to connect the flavouring heater (40) to an external electric circuitry (20).

9. The aerosol generating consumable (14) according to claim 7 and 8, wherein the cartomizer portion (26) further comprises an internal circuit (52) designed to connect said pair of contacts (50) of the flavouring portion (24) to the external electric circuitry (20).

10. The aerosol generating consumable (14) according to claim 9, wherein said pair of contacts (60) of the cartomizer portion (26) is further designed to connect the internal circuit (52) to the external circuitry (20).

11. The aerosol generating consumable (14) according to claim 9, wherein the cartomizer portion (26) further comprises another pair of contacts (62) different from said pair of contacts (60) and designed to connect the internal circuit (52) to the external circuitry (20).

12. The aerosol generating consumable (14) according

to any one of the preceding claims, wherein the cartomizer heater (56) comprises a wick (58) in fluid communication with the reservoir (54) and a heating element wound around the wick (58).

13. An aerosol generating set (10), comprising:

- an aerosol generating consumable (14) according to any one of the preceding claims;
- an aerosol generating device (12) configured to operate with the aerosol generating consumable (14) and comprising a control module (22) configured to control powering of the cartomizer heater (56) and the flavouring heater (40).

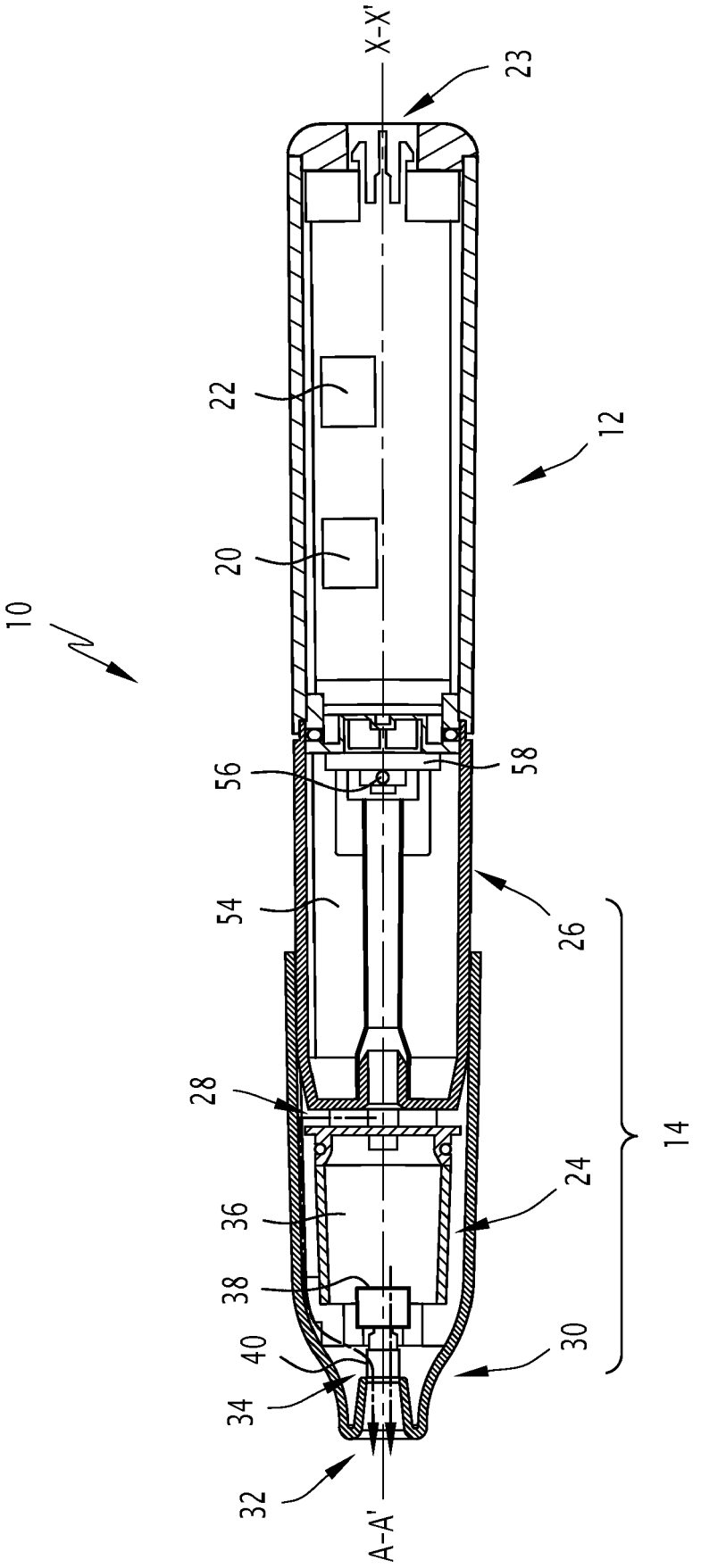

FIG.1

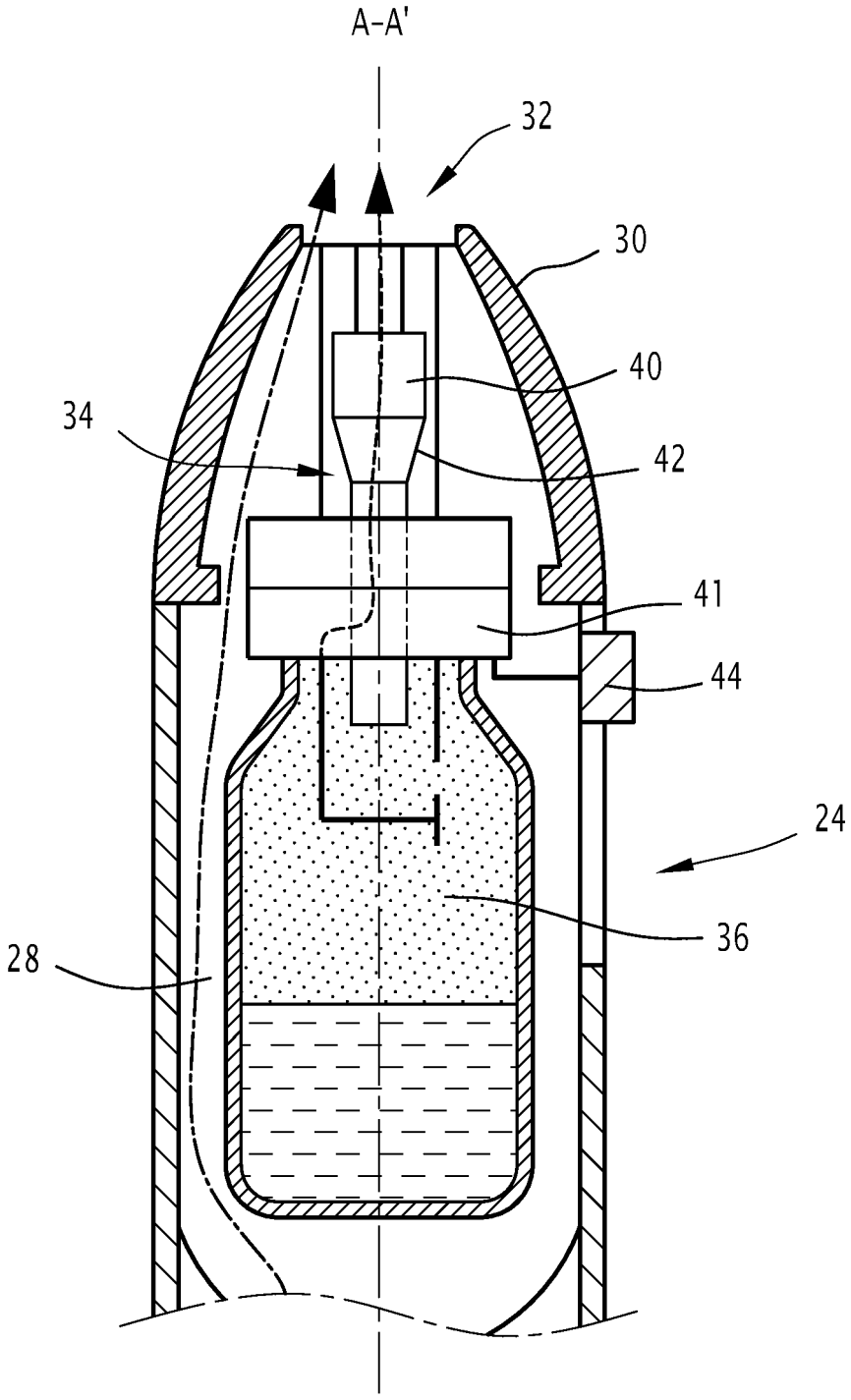

FIG.2

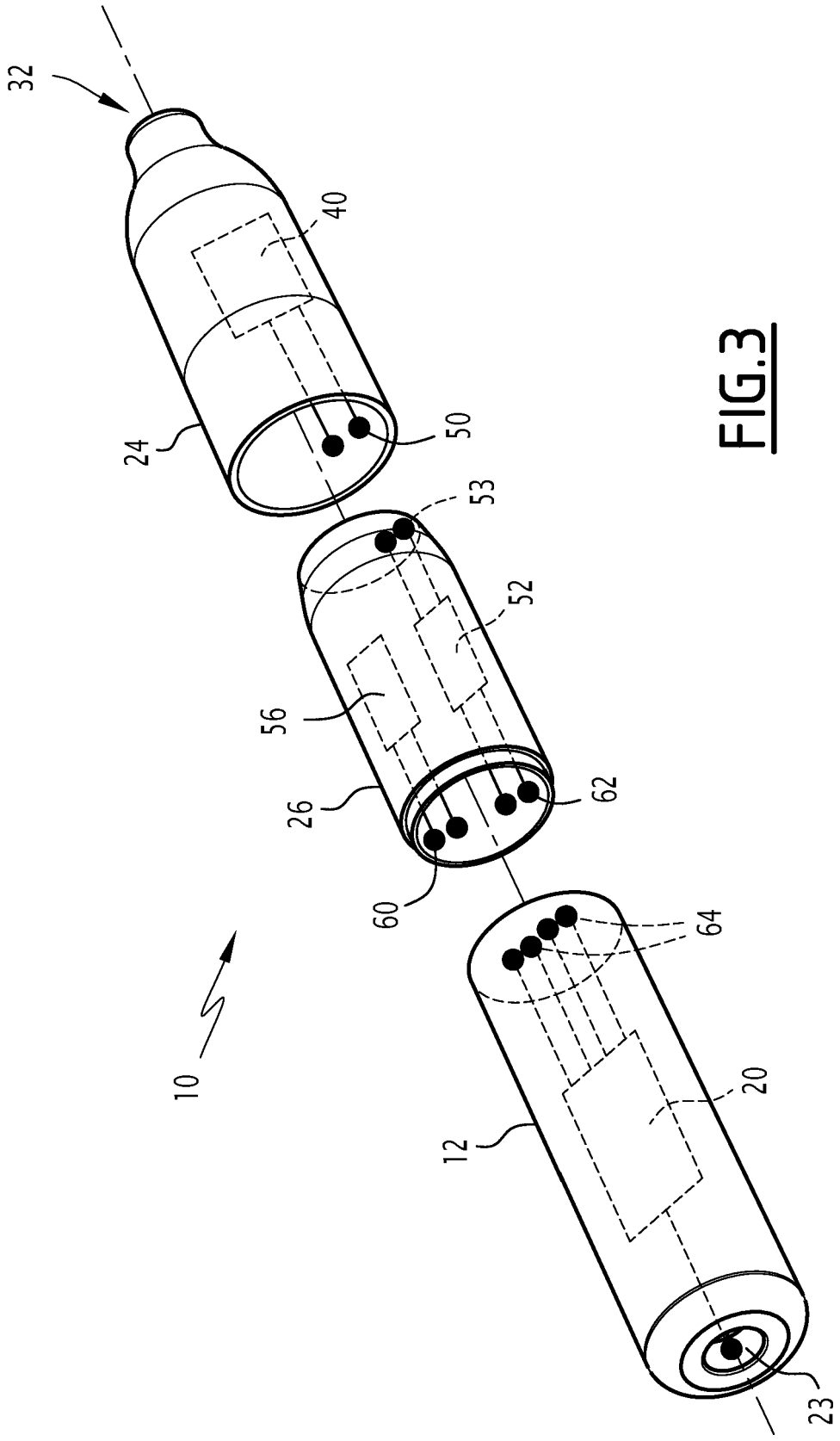

FIG.3

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 21 17 6913

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2020/068949 A1 (RASMUSSEN DENNIS [US]) 5 March 2020 (2020-03-05) * paragraph [0034]; figure 3 * * paragraph [0037]; figure 4 *	1-3,6-13	INV. A24F40/30 A24F40/46
A	EP 3 753 595 A1 (NERUDIA LTD [GB]) 23 December 2020 (2020-12-23) * paragraph [0082] - paragraph [0094]; figure 3a *	1-13	
A	US 2018/325176 A1 (BURSEG KERSTIN [DE]) 15 November 2018 (2018-11-15) * paragraph [0021]; figure 1 * * paragraph [0036] - paragraph [0037]; figure 3 * * paragraph [0041]; figure 4 *	1-4,6-13	
A	US 2020/170301 A1 (GALLAGHER GEORGE [GB] ET AL) 4 June 2020 (2020-06-04) * paragraph [0112] - paragraph [0114]; figure 3b * * paragraph [0124]; figure 4 *	1,2,4,5, 7,12,13	
			TECHNICAL FIELDS SEARCHED (IPC)
			A24F

1 The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	8 December 2021	Di Giorgio, F

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 21 17 6913

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

08-12-2021

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2020068949 A1	05-03-2020	GB 2592138 A	18-08-2021
		US 2020068949 A1	05-03-2020
		WO 2020044177 A1	05-03-2020
EP 3753595 A1	23-12-2020	EP 3753595 A1	23-12-2020
		WO 2020254669 A1	24-12-2020
US 2018325176 A1	15-11-2018	CN 108430241 A	21-08-2018
		EP 3170413 A1	24-05-2017
		US 2018325176 A1	15-11-2018
		WO 2017085240 A1	26-05-2017
US 2020170301 A1	04-06-2020	CN 111163820 A	15-05-2020
		EP 3664876 A1	17-06-2020
		GB 2566802 A	27-03-2019
		JP 2020529911 A	15-10-2020
		US 2020170301 A1	04-06-2020
		WO 2019030602 A1	14-02-2019

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82